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Analyzing Earnings and Capital Impacts of Impairments Volatility

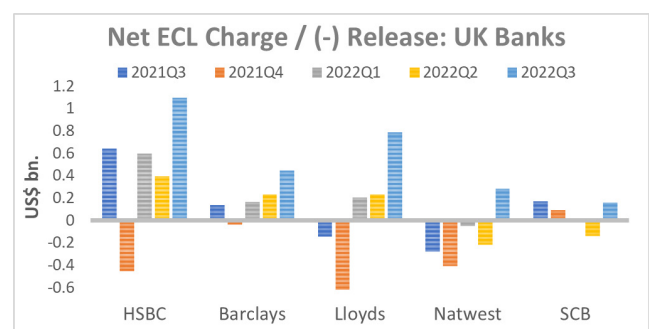
Executive Summary

Financial institutions are concerned that due to expectations of a downturn in macroeconomic conditions, their net impairments will go up and this will in turn deplete earnings and impact their capital adequacy ratios. Capital, which was always a costly resource, has now become prohibitively expensive to raise due to high interest rates.

Impairment rules require banks to use forward-looking methodologies to estimate changes in credit-quality of obligors in the future under a range of scenarios and hold a commensurate level of impairment provisions. This methodology can result in significant volatility in provisions and consequently earnings and capital. Further, interactions between such accounting impairment provisions, earnings and capital are not always transparent.

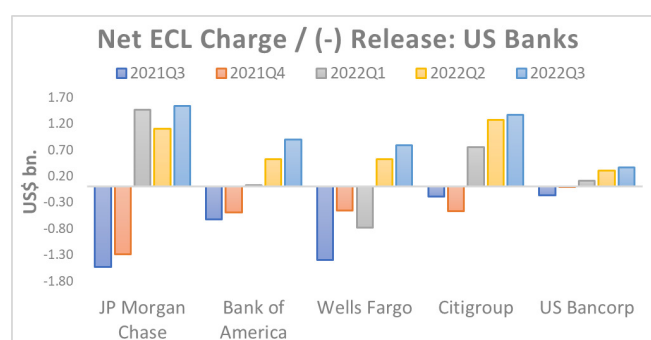
In this paper, the linkages between the three are analyzed and a set of strategies to provide better visibility of impacts of impairments on earnings and capital are defined.

Impairment rules (IFRS 9 or CECL) require banks to compute provisions using a forward-looking view on credit quality. The forward-looking view is typically captured by computing expected credit losses under a range of scenarios ranging from benign to severe. Many banks use at least three scenarios - a baseline that represents the most likely future economic state, a benign scenario that represents favorable economic conditions and a severe scenario that assumes adverse economic conditions. Each scenario is assigned a weight based on its severity and on how well the scenario approximates possible future economic states. The scenario-weighted expected credit losses are summed up to compute impairment provisions.



This methodology can result in significant volatility in provisions and consequently earnings and capital. A quick analysis of the 2022 half-yearly results of

five major UK banks reveals that all except one had a net impairments charge in the first 9 months of 2022 vs. a net impairments release in the last 6 months of 2021. Each bank cited expected deterioration in forecasted macroeconomic conditions in the countries that they operate in as one of the key drivers for the incremental impairments charge.



Banks in the US also are stockpiling impairment provisions (see quarterly changes in provisions of top 5 US banks in the chart alongside). Even though banks are booking higher interest income as a result of the steep interest rate hikes by the Fed,

Macroeconomic Scenario Choices

Under impairments methodologies, a borrower's future credit quality is measured by forward-looking PIT PD and LGD conditioned on macroeconomic scenarios. The severity of the chosen scenarios

and asset quality is still robust, expectations of a recession in the next 12 months, combined with the possibility of increasing credit losses spurred by high borrowing costs, has prompted them to boost provisions.

Invariably, impairments have an impact on the stock of capital resources and the extent of this impact depends on many factors such as the number and severity levels of the macroeconomic scenarios used, the horizon of the provision computation and the mix of a bank's portfolios subject to BCBS standardized and IRB approaches.


Capital has always been a scarce and costly resource. In order to combat inflation, central banks have raised policy rates in many countries, making raising capital an even more expensive affair.

In the rest of this paper, we explore the impact of macroeconomic scenarios choices and stage allocation on impairments and the interactions between the impairments, earnings and capital. Further, a few strategies to estimate and prevent unexpected impacts are outlined in the conclusion.

can impact the PIT PD and LGD term structures as illustrated in Table 1 below. Keeping everything else constant, under the 90th percentile scenario, loss allowance for this asset increases by 1.9% over the 75th percentile scenario¹.

Instrument	Rating	Outstanding	Status	Scenario	Loss Allowance 1Y	Loss Allowance Maturity
5% Fixed Rate Corporate Bond Issue Date: 30/06/2019 Maturity: 30/06/2030 Semi Annual Amortizing	Initial Rating: Ba3 Current Rating: B1	\$10,000	60DPD	S2: Downside - 75th Percentile	46.53	120.86
				S3: Downside - 90th Percentile	48.37	123.18

¹ Moody's Analytics S2 - Downside 75th Percentile scenario is a slower growth scenario, there is a 75% probability that economic conditions will be better, and a 25% probability that conditions will be worse. Moody's Analytics S3: Downside - 90th Percentile is a scenario where a deep downturn develops and there is a 90% probability the economy will perform better, and a 10% probability it will perform worse.



Banks have a fair amount of discretion in choosing the number and severity of macroeconomic scenarios for loss provisioning purposes. The severities are typically benchmarked against a baseline scenario. In times of a downturn, the baseline forecast itself shifts from its long-term trend and therefore, the alternative scenarios anchored to the baseline also move, thus exhibiting exacerbated variations.

IASB states that, for periods beyond which an entity is able to make or obtain reasonable and supportable forecasts of expected credit losses, the entity shall revert to historical loss information. Banks use mean reversion as a mechanism to incorporate historical loss information for forecasts beyond a few years such that macroeconomic time series revert back to their long-term trends after experiencing an economic shock and the conditional PDs and LGDs follow the direction set by the macro variables. As a general rule, forecasts across the alternative economic scenarios tend to revert toward their long-term equilibrium trends within two to three years from the forecast start date.

FASB allows reversion to be incorporated either as a part of economic scenarios or to the expected credit loss outputs. This area remains open to interpretation and provides a wide latitude for firms to use different reversion speeds and different scopes of application².

It is important to use scenarios produced by models that analyze each specific economic indicator according to its speed of reversion; some factors adjust for economic shocks quickly, while others may exhibit latency in reversion or in some cases, the levels may change permanently. A consistent set of scenarios produced based on established macroeconomic theory, with parameters estimated econometrically using historical data will enable institutions to calibrate their expected credit losses appropriately.

Stage Allocation

While CECL requires firms to compute impairments for the remaining lifetime of an instrument, IFRS 9 has the notion of stage classification in which an asset classified as Stage 2 due to significant increase in credit risk (two notch rating downgrade or 30-days past due) attracts impairment calculations across the remaining lifetime of the asset, while impairment for a Stage 1 asset is determined over a horizon of 12-months. Assets that move between Stage 1 and 2 across reporting periods contribute to provision volatility. There are regulatory 'cooling-off' periods in many jurisdictions whereby accounts that migrate to Stage 2 are required to be remain in the same stage for one or more years. While this does dampen provision volatility a bit, by no means does it eliminate jumps in provision numbers.


Where reasonable and supportable information available to undertake stage classification at an account level, it can be done on a collective basis so as to approximate individual classification. Further, stage classification overlays can be applied at management discretion. Full visibility of the criteria applied to undertake collective stage classification and management overlays is not always available at hand and can lead to unpredictable results.

Interaction of Impairments with Earnings and Capital

Banks Following BCBS Standardized Credit Risk Approach

Banks that follow the credit risk standardized approach are required to classify impairment provisions into specific provisions (SP) and general provisions (GP) as per BCBS guidelines. From an impairments perspective, regulators in various jurisdictions have been given the discretion to define the criteria to classify impairments into SP and GP. It is unequivocal that Stage 3 impairment provisions are SP. However, there is no uniformity

² For a more detailed discussion about mean reversion and impact on CECL impairment provisions please refer to: Mean Reversion in CECL: The What and the How, Dr. Sohini Chowdhury, Cristian deRitis, September 2018.



in allocation of impairments for Stages 1 and 2 into GP or SP. Many regulators allow impairments for Stage 1 accounts to be classified as GP, while impairments for Stage 2 and 3 accounts are classified as SP, while in other jurisdictions, especially where there is no explicit regulatory guidance, banks classify even Stage 2 impairments as GP. We do not expect a clear mapping between IFRS 9 Stages 1 and 2 to GP or SP and it will indeed depend on individual banks' internal accounting practices.

In case of CECL, as stage allocation rules are not applicable, apportionment of impairments into GP and SP becomes even more challenging as there is no application of the significant increase in credit risk (stage allocation) criteria and banks need to evolve their own criteria to ensure appropriate mapping.

Capital Availability

For banks that apply the BCBS Credit Risk Standardized approach to certain exposures, higher impairment provisions reduce the net earnings (after tax effects) and CET 1 capital availability. However, for loss-making institutions, impairment provisions will impact earnings and CET 1 capital one-for-one. GP can be added back to Tier 2 capital (upto 1.25% of standardized credit RWA). This asynchronous treatment in almost all cases results in depletion of CET 1 capital.

Capital Consumption

Standardized banks have to deduct SP from the Exposure at Default (EAD) and RWA %age is applied to this adjusted EAD. This is because SP represents Expected Losses and capital is required as a buffer only to cover unexpected losses. This partially offsets the reduction in CET 1 due to impairment provisions.

For 'defaulted' assets, the risk weight %age is dependent on the amount of impairments as a %age of unsecured outstanding. When SP is equal or greater than 20%, the risk weight is 100%; otherwise, the risk weight is 150%. Capital consumption is not proportional to provision coverage and unsecured impaired exposures

with less than 20% provision coverage will be significantly penalized by way of capital. Therefore, banks will need to analyze their Stage 3 accounts very closely to examine the level of impairment provisions and make up the shortfall where possible to conserve capital.

Banks Following BCBS IRB Credit Risk Approach **Capital Availability**


For IRB exposures, the total impairments is compared to the IRB estimate of expected loss and the shortfall of impairments will be deducted from CET 1 capital, while excess if any, can be added back to Tier 2 capital upto 0.6% of IRB credit RWA. The add-back is applied to the entire stock of impairments (not just GP stock as is applicable in case of the Standardized Approach).

Under benign forecasted economic conditions typically there will be a shortfall of impairments vs. regulatory EL and vice-versa. Regulatory EL is calculated over a 1-year horizon, whereas for Stage 2 and 3 assets, impairments calculation horizon is the remaining lifetime of an instrument. The components of the Regulatory EL – PD and LGD – are through-the-cycle in nature and calibrated to a stress period, while impairments uses point-in-time PDs and LGDs and is a weighted conditional estimate under baseline, benign and downside scenarios.

When macroeconomic conditions are deteriorating, impairments can build up significantly, depleting profits and CET 1 capital. While regulatory EL builds up during an upturn and depletes during a downturn, impairments functions in a countercyclical manner, buffering up impairment provisions for an expected downturn and releasing impairment provisions when the business cycle turns for the better. Higher impairments will also result in lower taxes, conserving cash.

Capital Consumption

BCBS Asymptotic Single Risk Factor (ASRF) model calculates the capital requirements for IRB banks and the model sets the capital requirements to be equal to unexpected loss (UL), while the expected loss (EL) component will be met out of IFRS 9



impairment stock (or deducted from capital if there is a shortfall).

Impairments do not directly interact with performing assets. Defaulted assets on the other hand, attract a capital charge to the extent of the difference between the LGD and the bank's best estimate of expected loss, with the latter corresponding to the impairments.

Therefore, in general, for banks using the IRB approach, higher impairments will result in lower capital requirements.

Conclusion

Impairments computation has many moving parts, with macroeconomic scenarios, stage allocation methodologies and credit migrations contributing to volatility of estimates. In order to get better visibility, forecasting impairments beyond the current reporting date is important. The same conditional PD and LGD models can be leveraged to produce forward estimates of impairments for future reporting dates under different scenarios. Such an analysis can inform decision-making, strategic planning and facilitate exploration of different business models.

Further, there are synergies between IFRS 9 and stress testing & ICAAP models. Both use macro-conditional point in time estimates of PD and LGD, which can in turn be used to derive forecasted estimates of RWA consistent with the Basel framework.

While the core the concept of unexpected and expected losses having complementary roles in building up buffers to meet credit risk deterioration remains undiluted, the linkages between accounting impairment provisions and capital are undoubtedly complex and there are many moving parts, different practices and terminologies. Banks can derive synergies by impairments calculations and regulatory calculations by re-using their impairments outputs to compute and analyze impacts on capital ratios and use this information for steering their business model.

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Abbreviation	Expansion
IRB	Internal Rating Based
BCBS	Basel Committee on Banking Supervision
PIT	Point in Time
PD	Probability of Default
LGD	Loss Given Default
SP	Specific Provision
GP	General Provision
IASB	International Accounting Standards Board
FASB	Financial Accounting Standards Board
IFRS	International Financial Reporting Standards
CECL	Current Expected Credit Losses
EL	Expected Loss
ASRF	Asymptotic Single Risk Factor
ICAAP	Internal Capital Adequacy Assessment
UL	Unexpected Losses
RWA	Risk Weighted Assets
CET 1	Common Equity Tier 1
EAD	Exposure at Default
DPD	Days Past Due



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